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DISCOVERIES AND IMPROVEMENTS IN ARTS, MANUFACTURES,
AND AGRICULTURE.*New printing Press.*

AT a meeting of the members of the Edinburgh Institute, held on Tuesday the 8th, current, Mr. John Ruthven, printer, Edinburgh, laid before them a working model of his newly invented printing press.

This press is constructed on principles entirely different from those of the presses now in use; to all of which, in the judgment of several professional men who examined it, it is decidedly superior.

As its mechanism, however, cannot be easily understood without actual inspection, it would be to little purpose to attempt to describe it, but it may be observed in general, that by substituting compound levers for the screw, Mr. Ruthven has effected a considerable saving of power, and by a more commodious arrangement of the different parts of the machine, he has been enabled to remove all the material defects of the printing press hitherto in use. In Mr. Ruthven's press, the coffin, or tablet for the types, remains fixed, and the impression on one side of a sheet is completed by *one* application of the moving power, and of course by one exertion of the arm. He has a contrivance for making register (printing the pages exactly on the back of each other) in an improved manner, and a regulator for producing the different degrees of pressure that may be required. Instead of pulling with the right hand, as in the other presses, a practice both inconvenient and dangerous, the workman produces the impression by turning with the left hand a winch or handle, which makes about one third of a revolution. It is proper to add, that all the parts are contrived and disposed with a due regard to economy of time and labour and with a nice attention to every circumstance which a practical knowledge of the art could suggest.

Mr. Ruthven's construction has the advantage of being equally applicable on a great or a small scale. With the model he exhibited, which did not occupy more space than a cubic foot, and although made of iron, was easily carried under the arm, he printed off, in the presence of the meeting, eight small pages, (contained in the

size of a demy octavo) affording ocular evidence of the accuracy with which the impression was taken, and the facility with which the operation was performed. Such small presses would certainly be very useful in remote country places; they might even furnish a very pleasing amusement to the amateurs; and those of the large size, when their advantages become known, will no doubt be brought into general use by the trade. We understand that Mr. Ruthven, having obtained patents, is preparing a number for sale.

Mr. Ruthven concluded the account of his model, by observing, that as no circumstances connected with the progress of an art that had rendered such a *signal* service to mankind, was devoid of interest, he thought it but justice to state, that the Edinburgh Institute had the merit of bringing this invention into notice, as the attention excited by the portable press, formerly exhibited at a meeting of the Institute, had induced him to attempt one on a more extensive scale, which he had now the satisfaction to lay before the Society.

A Machine to Facilitate Printing.

A patent has been recently granted for a machine to facilitate the operations of printing. The objects of the machine, are, precision, speed, and the saving of skill, labour, and expense. It abrogates almost all the former apparatus of the press and the preparation of the types; performs by its own action the several parts of furnishing, distributing, and communicating the ink, and giving the pressure. At its ordinary rate, sixteen sheets a minute are discharged by it; and indeed its velocity is only limited by the power of placing and removing the sheet, which are all the manual assistances required. The machine has been exhibited to the syndics of the press at Cambridge, and was examined during three days last week by most of the principal members of the university; and on receiving the report of their deputation, Dean Milner, master of Queen's College; Mr. Wood, president of St. John's; and Mr. Kaye, tutor of Christ's, the syndicate agreed with